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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/776,175	02/02/2001	Kamran Azadet	Azadet 11-1-1-6	2199

26291 7590 05/28/2004

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EXAMINER	
ABRAHAM, ESAW T	

ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/776,175	AZADET ET AL.	
	Examiner	Art Unit	
	Esaw T Abraham	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Final rejection

Response to the applicant's amendments

********The examiner accepted the amended claims, which are corrected by the applicant in response to the claim informalities.

Response to the applicant's argument

Applicants' argument/amendment with respect to amended and original claims have been fully considered but are not persuasive. The examiner would like to point out that this action is made final (MPEP 706.07a).

Response to remark pages 9-19, the applicant argues that the prior art (Treadway et al.) do not teach transmitting a plurality of data frames temporarily separated by IPG's and each IPG's having comprising a synch pattern for indicating or delineating data frames. However, the argument is acknowledged but is not convincing. This is so because Treadway et al. teach a reformed data frame (see figure 5, element 300) loaded to rate buffers (see figure 4, element 252) by packet synch/de-synch block (see figure 4, element 256) in eight-bit portions (bytes) for processing into a 100BASE-T Ethernet packet, from the length value, the data valid bit for each byte is also re-generated and stored in the rate buffers (252) and a single inter-packet gap code stored in the rate buffers (252) to separate each packet (see col. 16, lines 40-47). Further, Treadway et al. teach that the rate buffer (252) coupled to a rate control logic (250) to check each data packets for errors and strips (indicates or delineates) each data packet of its preamble and start of frame delimiter (see col. 11, lines 11-21). Therefore, the application of the prior art in relation to the claimed invention is appropriate.

Further, in response to the applicants' argument that the references fail to show certain features of applicants' invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although, the claims interpreted in light of the specification, limitations from the specification are not read to the claims. See *in re Van Geuns,* 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). For example, applicants' in page 10 of the remark contend that, the prior art does not teach or suggest the IPG store a long termination flag and a relatively short sequence identification nonce and the termination flag indicate the begging of control portion of a data stream where the data is divided into alternating control and data portions. The examiner would like to point out that the limitation "the termination flag indicate the begging of control portion of a data stream where the data is divided into alternating control and data portions" is non-claimed in the claimed language.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Rejection under 35 U.S.C. 102(e), Patent to Another with earlier Filing date, Reference is a U.S. Patent Issued Directly or Indirectly From a National Stage of, or a Continuing Application Claiming benefit under 35 U.S.C. 365© to, an International Application Having an International Filling Date Prior to November 29, 2000.

1. Claims **1-4, 7, 8, and 20,** are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Treadaway et al. (U.S. PN: 6,665,285).

As per claims **1 and 20,** Treadaway et al. disclose or teach a method of communicating Fast Ethernet data packets over a wireless link includes receiving data packets into a device from a computer network and forwarding the data packets to a broadcast device (see col. 4, lines 4-8). Treadaway et al. in figure 4, teach or disclose a digital signal processing MAC (222) includes a rate control logic (250) and a rate buffers (252) whereby the rate control logic receives Ethernet data packets (see col. 10, lines 50-57), detects each Ethernet data packet, checks each Ethernet data packet for errors utilizing a frame check sequence (FCS) appended to each Ethernet packet, strips each Ethernet data packet of its preamble and start-of-frame delimiter (frame marking or frame delineating) then store the packets temporarily in rate buffers (252) (see col. 11, lines 11-30). Further, Treadaway et al. teach that the rate buffers (252) include FIFO buffers each provides sufficient storage for each entry so that additional information (valid bit for each nibble and an indication of whether the nibble is payload data or overhead) in which the overhead can include inter-packet gaps (IPG) codes and start-of-packet codes (see col. 11, lines 26-50 and col. 16, lines 45-16). Furthermore, Treadaway et al. teach upon retrieving each packet from the rate

buffers, a packet synch/de-synch block (256) adds a synch pattern in field (see fig. 5, element 302) and a length value in field (see fig. 5, element 304) to the packet (see col. 11, 58-67 to col. 12, lines 1-34).

As per claim **2,** Treadaway et al. teach all the subject matter claimed in claim 1 including Treadaway et al. teach a rate control logic temporarily stores the packets in rate buffers whereby the rate buffers include FIFO buffers each provides sufficient storage for each entry so that additional information can be stored in the rate buffers which such additional information (the data valid bit for each nibble and an indication of whether the nibble is payload data or overhead) and the overhead include inter-packet gaps codes and start-of-packet codes in addition to that the rate control logic stores an indication of the status of the packet (e.g. too long, too short or misaligned) in the length and status buffer 254 (see col. 11, lines 25-50).

As per claims **3 and 4,** Treadaway et al. teach all the subject matter claimed in claims 1 and 2 including Treadaway et al. teach a rate control logic stores an indication of the status of the packet (e.g. too long, too short or misaligned) in the length and status buffer (254) (see col. 11, lines 25-50). Treadaway in figure 12 and lines 35-60 of column 17, teach a frame synchronizing portion (268) within the rate control logic comprising transmit buffer (252A) store an Ethernet packet, an arbitration logic (270) instructs a packet counter (272) to increment or to decrement a count by one and the packet counter maintains a current count of complete Ethernet data packets in the transmit buffer. Although Treadaway et al. is silent to teach length indicative data element counts number of words or double words, this practice is deemed to be inherent to the Treadaway et al.'s system and by virtue of the fact the process of counting

numbers of words or double words is common practice used by most of rate control logic systems to provide a high performance.

As per claims **7 and 8,** Treadaway et al. in figure 4, teach all the subject matter claimed in claim 1 including Treadaway et al. teach a radio super frame provided to PN randomizer/de-randomizer performs scrambling on entire radio super frame and further by disabling the PN randomizer/de-randomizer, the scrambled super frame can be detected upon reception and the scrambling operation maps each octet (byte) of the radio super frame to a two successive four-bit symbols utilizing a 13th order polynomial (see col. 14, 13-26).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims **5, 6, 11, 12, 14-19 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Treadaway et al. (U.S. PN: 6,665,285) in view of Rouse (U.S. PN: 5,260,933).

As per claims **5 and 23,** Treadaway et al. in figure 4, teach all the subject matter claimed in claims 1 and 20 including Treadaway et al. teach a rate control logic receives Ethernet data packets, detects and checks each Ethernet data packet for errors utilizing a frame check sequence (FCS) (see col. 11, lines 11-30) and further Treadaway et al. teach rate buffers include FIFO buffers each provides sufficient storage for each overhead include an inter-packet gaps (IPG) codes and start-of-packet codes (see col. 11, lines 26-50). Although, Treadaway et al. **do not explicitly** teach "CRC" for detecting errors data element generated and positioned within the data frame, Treadaway et al. teach the method of detecting and checking data frames. **However,** Rouse in an analogous art in figure 3, teach a frame encapsulated between a start of frame delimiter and end of frame delimiter, a frame header follows the SOF and contains control information, following the frame header is data field then a 32-bit CRC checks the contents of the frame from the frame header to the end of the data field (see col. 4, lines 1-18). **Therefore,** it would have been obvious to a person having an ordinary skill in the art at the time the invention was made to implement the teachings of Treadaway et al. including CRC data for detecting errors as taught by Rouse. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated to do so because it would be relatively and yet high reliable in operation

As per claim **6,** Treadaway et al. in figure 4, teach all the subject matter claimed in claims 1 and 5 including Treadaway et al. teach a radio super frame provided to PN randomizer/de-randomizer performs scrambling on entire radio super frame and further by disabling the PN

randomizer/de-randomizer, the scrambled super frame can be detected upon reception and the scrambling operation maps each octet (byte) of the radio super frame to a two successive four-bit symbols utilizing a 13th order polynomial (see col. 14, 13-26).

As per claims **11 and 12,** Treadaway et al. in figure 4, teach all the subject matter claimed in claim 10. Although, Treadaway et al. **do not explicitly** teach "CRC" for detecting errors data element generated and positioned within the data frame, Treadaway et al. teach the method of detecting and checking data frames. **However,** Rouse in an analogous art in figure 3, teach a frame encapsulated between a start of frame delimiter and end of frame delimiter, a frame header follows the SOF and contains control information, following the frame header is data field then a 32-bit CRC checks the contents of the frame from the frame header to the end of the data field (see col. 4, lines 1-18). **Therefore,** it would have been obvious to a person having an ordinary skill in the art at the time the invention was made to implement the teachings of Treadaway et al. including CRC data for detecting errors as taught by Rouse. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated to do so because it would be relatively and yet high reliable in operation.

As per claim **14,** Treadaway et al. in figure 4, teach all the subject matter claimed in claim 10 including Treadaway et al. teach a radio super frame provided to PN randomizer/de-randomizer performs scrambling on entire radio super frame and further by disabling the PN randomizer/de-randomizer, the scrambled super frame can be detected upon reception and the scrambling operation maps each octet (byte) of the radio super frame to a two successive four-bit symbols utilizing a 13th order polynomial (see col. 14, 13-26). Although, Treadaway et al. **do not explicitly** teach "CRC" for detecting errors data element generated and positioned within the

data frame, Treadaway et al. teach the method of detecting and checking data frames. **However,** Rouse in an analogous art in figure 3, teach a frame encapsulated between a start of frame delimiter and end of frame delimiter, a frame header follows the SOF and contains control information, following the frame header is data field then a 32-bit CRC checks the contents of the frame from the frame header to the end of the data field (see col. 4, lines 1-18). **Therefore,** it would have been obvious to a person having an ordinary skill in the art at the time the invention was made to implement the teachings of Treadaway et al. including CRC data for detecting errors as taught by Rouse. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated to do so because it would be relatively and yet high reliable in operation.

As per claim **15,** Treadaway et al. disclose or teach a method of communicating Fast Ethernet data packets over a wireless link includes receiving data packets into a device from a computer network and forwarding the data packets to a broadcast device (see col. 4, lines 4-8). Treadaway et al. in figure 4, teach a digital signal processing MAC (222) includes a rate control logic (250) and a rate buffers (252) whereby the rate control logic receives Ethernet data packets (see col. 10, lines 50-57), detects each Ethernet data packet, checks each Ethernet data packet for errors utilizing a frame check sequence (FCS) appended to each Ethernet packet, strips each Ethernet data packet of its preamble and start-of-frame delimiter (frame marking or frame delineating) then store (write or insert) the packets temporarily in rate buffers (252) (see col. 11, lines 11-30). Further, Treadaway et al. teach upon retrieving each packet from the rate buffers, a packet synch/de-synch block (256) adds a synch pattern in field (see fig. 5, element 302) and a length value in field (see fig. 5, element 304) to the packet (see col. 11, 58-67 to col. 12, lines 1-

34). Treadaway et al. **do not explicitly teach** or mention end of frame delimiter. **However,** Rouse in an analogous art in figure 3, teach a frame encapsulated between a start of frame delimiter (SOF) and end of frame delimiter (EOF) and further the SOF Frame delimiter delineates a frame boundary, defines a sequence boundary, and identifies the Class (1, 2, or 3) of the frame and the frame header immediately follows the SOF and contains sufficient information to control the transfer of information (see col. 4, lines 1-18). **Therefore,** it would have been obvious to a person having an ordinary skill in the art at the time the invention was made to implement the teachings of Treadaway et al. including the end of frame delimiter for marking the ending the frame as taught by Rouse. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated in order to enhance link or channel performance. As for termination flag is a character added to a transmitting frame to end the word and the practice is commonly used by most of frame transmitters or receivers.

As per claims **16-18,** Treadaway et al. in figure 4, teach all the subject matter claimed in claim 15 including Treadaway et al. teach a radio super frame provided to PN randomizer/de-randomizer performs scrambling on entire radio super frame and further by disabling the PN randomizer/de-randomizer, the scrambled super frame can be detected upon reception and the scrambling operation maps each octet (byte) of the radio super frame to a two successive four-bit symbols utilizing a 13th order polynomial (see col. 14, 13-26).

As per claim **19,** Treadaway et al. teach all the subject matter claimed in claim 15 including in figure 4, teach that the rate buffers include FIFO buffers each provides sufficient storage for each entry so that additional information (valid bit for each nibble and an indication of whether the nibble is payload data or overhead), in which the overhead can include inter-

packet gaps (IPG) codes and start-of-packet codes (see col. 11, lines 26-50). Furthermore, Treadaway et al. teach upon retrieving each packet from the rate buffers, a packet synch/de-synch block adds a synch pattern in field (see fig. 5, element 302) and a length value in field (see fig. 5, element 304) to the packet (see col. 11, lines 58-67 to col. 12, lines 1-34). Treadaway et al. **do not teach** a pointer data element indicating the position of next data element. **Nevertheless,** as would have been well known to one ordinary skill in the art at the time the invention was made, pointer are required in the data structure to locate and identify a location in internal storage. **Accordingly,** it would have been obvious to one ordinary skill in the art to employ a pointer in the data structure because pointers are identifiers that indicates the location of an item of data.

3. Claims **9, 10, 13 and 24-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Treadaway et al. (U.S. PN: 6,665,285).

As per claims **9 and 24-26,** Treadaway et al. teach all the subject matter claimed in claims 1 and 20 including in figure 4, teach that the rate buffers include FIFO buffers each provides sufficient storage for each entry so that additional information (valid bit for each nibble and an indication of whether the nibble is payload data or overhead), in which the overhead can include inter-packet gaps (IPG) codes and start-of-packet codes (see col. 11, lines 26-50). Furthermore, Treadaway et al. teach upon retrieving each packet from the rate buffers, a packet synch/de-synch block adds a synch pattern in field (see fig. 5, element 302) and a length value in field (see fig. 5, element 304) to the packet (see col. 11, lines 58-67 to col. 12, lines 1-34). Treadaway et al. **do not teach** a pointer data element indicating the position of next data element. **Nevertheless,** as would have been well known to one ordinary skill in the art at the time

the invention was made, pointer are required in the data structure to locate and identify a location in internal storage. **Accordingly,** it would have been obvious to one ordinary skill in the art to employ a pointer in the data structure because pointers are identifiers that indicates the location of an item of data.

As per claim **10,** Treadaway et al. disclose or teach a method of communicating Fast Ethernet data packets over a wireless link includes receiving data packets into a device from a computer network and forwarding the data packets to a broadcast device (see col. 4, lines 4-8). Treadaway et al. in figure 4, teach or disclose a digital signal processing MAC (222) includes a rate control logic (250) and a rate buffers (252) whereby the rate control logic receives Ethernet data packets (see col. 10, lines 50-57), detects each Ethernet data packet, checks each Ethernet data packet for errors utilizing a frame check sequence (FCS) appended to each Ethernet packet, strips each Ethernet data packet of its preamble and start-of-frame delimiter (frame marking or frame delineating) then store (insert) the packets temporarily in rate buffers (252) (see col. 11, lines 11-30). Further, Treadaway et al. teach upon retrieving each packet from the rate buffers, a packet synch/de-synch block (256) adds a synch pattern in field (see fig. 5, element 302) and a length value in field (see fig. 5, element 304) to the packet (see col. 11, 58-67 to col. 12, lines 1-34). Treadaway et al. **do not explicitly** mention or teach the term protocol comprising of physical sub-layer. **Nevertheless,** as would have been well known to one ordinary skill in the art at the time the invention was made, protocols are known in the art and required in any data transmission systems for governing the operation of functional units between communication layers. **Accordingly,** it would have been obvious to one ordinary skill in the art to use protocol

comprising a plurality of layers because protocols would have been required in order to govern the interaction of processes, devices and other components within a system.

As per claims **13,** Treadaway et al. in figure 4, teach all the subject matter claimed in claim 10 including Treadaway et al. teach a radio super frame provided to PN randomizer/de-randomizer performs scrambling on entire radio super frame and further by disabling the PN randomizer/de-randomizer, the scrambled super frame can be detected upon reception and the scrambling operation maps each octet (byte) of the radio super frame to a two successive four-bit symbols utilizing a 13th order polynomial (see col. 14, 13-26).

Allowable subject matter

4. Claims **21 and 22** are objected to as being dependent upon a rejected base claim but would be allowable if rewritten independent from including all of the limitation of the base claim and any intervening claims. The claimed invention comprises a method wherein detection of synchronization pattern comprises a correlation of data within said data stream to at least an n-bit difference between said synchronization pattern and said reference synchronization pattern which the prior art do not teach or render obvious.

Claim 22, which are directly or indirectly dependents of claim 21 is also objected.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

5. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Esaw Abraham whose telephone number is (703) 305-7743. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are successful, the examiner's supervisor, Albert DeCady can be reached on (703) 305-9595. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Esaw Abraham

Esaw Abraham

Art unit: 2133

CHRISTINE T. TU
Primary Examiner